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L3: Entry 1 of 1

File: USPT

May 18, 1999

US-PAT-NO: 5905987

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TITLE: Relational database modifications based on multi-dimensional database

modifications

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INVENTOR-INFORMATION:

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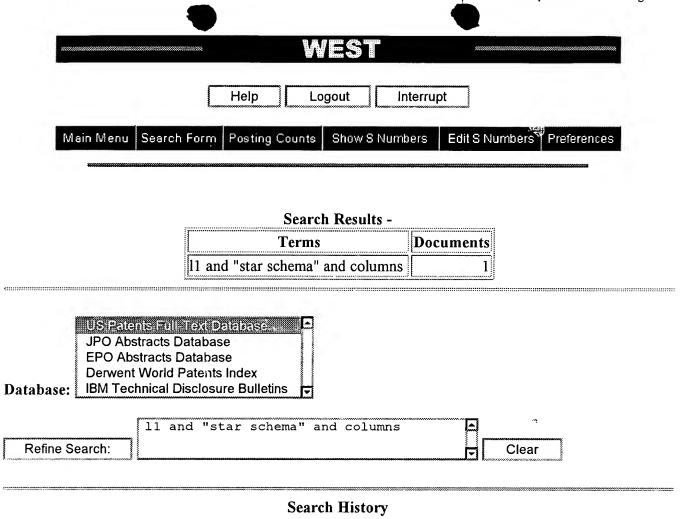
US-CL-CURRENT: <u>707/100</u>; <u>707/101</u>, <u>707/102</u>

ABSTRACT:

A method, apparatus, and article of manufacture for using a relational database management system to support on-line analytical processing (OLAP) systems. A relational schema is defined from a multi-dimensional database definition. The multi-dimensional database definition has one or more dimensions having one or more members. The relational schema includes a fact table and related dimension tables. The fact table has a dimension column for all but one of the dimensions of the multi-dimensional database and a value column for each member of the remaining dimension. The fact table has one or more rows that contain values corresponding to the intersection of the members identified by the dimension columns and the members associated with the value columns. Each dimension table has a row for each member of a dimension. Each row of each dimension table includes a multi-dimensional member identifier and a relational member identifier. A relational database is created based on the defined relational schema. Rows are accessed from the relational database using the multi-dimensional member identifiers by joining the dimension tables to the fact table through the relational member identifiers.

18 Claims, 5 Drawing figures Exemplary Claim Number: 1 Number of Drawing Sheets: 5

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Today's Date: 9/28/2000

| DB Name | Query | Hit Count | Set Name |
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| USPT | 11 and "star schema" and columns | 1 | <u>L3</u> |
| USPT | ll and "star schema" | 1 | <u>L2</u> |
| USPT | database and (definition same schema) and tables | 249 | <u>L1</u> |

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